

Customer No.: 31561
Application No.: 10/604,171
Docket No.: 10239-US-PA

REMARKS

Present Status of the Application

In the Office Action, claims 1, 4, 7 and 10-13 are rejected. Specifically, claims 1-2, 4-5, 7-8, 10-11 and 13 are objected because of informalities. In addition, claims 1, 4, 7 and 10-13 are rejected under 35 USC §102(b) as being anticipated by Holbrook (US Patent No. 5,663,751). Moreover, claims 2-3, 5-6, and 8-9 are allowable if written in independent form including all of the limitations of the base claim and any intervening claims. Reconsideration and allowance of those claims is respectfully requested.

Discussion of the Rejections of the Office Action

In response thereto, first of all, Applicants would like to thank the Examiner for the allowance of claims 2-3, 5-6, and 8-9.

Response to Objections

Claims 1-2, 4-5, 7-8, 10-11 and 13 are objected because of informalities

Accordingly, the informality terms in these claims described above are amended.

It is believed that the foregoing amendments add no new matter to the present application. Applicants believe that these amendments place the claims in condition for allowance. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

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Discussion of Amendment of Claims and Specifications

As to claims 1 and 7, "the wipers" is amended to "the wiper" because of typing error.

The feature that the wiper "slides across the print head..." is added to claims 1 and 7, and the feature that "sliding the wiper across the print head..." is added to claim 11 according to paragraph [0023] and FIG. 2.

The feature that "lifting the cap toward the print head..." is added to claim 13 according to paragraph [0026] and FIG. 2.

Paragraph [0026] is amended according to the description itself and FIG. 2, especially:

"Note that the caps 262a, 262b move along the direction of movement of the capping base 252 (the Z-axis). Therefore, the angle between the direction of movement of the cap 262a (or the cap 262b) and the direction of movement of the print module (the X-axis) is greater than or equal to 70° "

It is believed that the foregoing amendments add no new matter to the present application. Applicants believe that these amendments place the claims in condition for allowance. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

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Response to Claims Rejections under 35 USC § 102

Claims 1, 4, 7 and 10-13 are rejected under 35 USC §102(b) as being anticipated by Holbrook.

For a proper rejection of a claim under 35 U.S.C. section 102, the cited reference must disclose all elements/features/steps of the claim.

(1). Independent claim 1, as amended, states:

Claim 1. A service station for the a print head of a print module in a printing system, comprising:

a base;

a first direction-changing mechanism set up on the base;

a first moving mechanism set up on the base and coupled to the first direction-changing mechanism;

a wiper set up on the first moving mechanism, wherein the print module drives the first direction-changing mechanism and, in turn, drives the first moving mechanism so that the wiper is set in motion and slides across the print head to clear away dried ink from the print head;

a second direction-changing mechanism set up on the base;

a second moving mechanism set up on the base and coupled to the second direction-changing mechanism; and

at least one cap set up on the second moving mechanism, wherein the print module drives the second direction-changing mechanism and, in turn, drives the second moving mechanism so that the cap is moved to a position that seals off the print head.

(Emphasis Added)

Independent claim 1 is allowable for at least that Holbrook does not disclose, teach or suggest the feature that "the wiper is set in motion and slides across the print head to clear away dried ink from the print head" as highlighted above.

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Referring to paragraphs [0020] and [0021] of the application, it is disclosed that:

"Hence, one of the wiping bases (222a or 222b) will move forward and the other wiping base will move backward in the Y-direction. Through the movement of the wiping bases 222a and 222b, the wipers 232a and 232b can scrap away residual ink on the print head of the print module."

"In Fig. 2, the angle between the direction of movement of the print module (the X-direction)"

Therefore, in the application, the wipers slide across the print head via linearly moving the wiping bases to clear away dried ink from the print head.

However, referring to col. 5, lines 50-54 and FIG. 6 of Holbrook, it is disclosed that:

"Carriage cam 73 has a bottom most portion in contact with cam follower 71 such that wiper arm 61 has rotated counterclockwise (as viewed in FIG. 6) to a position whereby wiper blades 75,77 have been swept across orifice plate 11."

Therefore, referring to FIG. 6 of Holbrook, the blades 75, 77 are swept across orifice plate 11 due to the rotation of the wiper arm 61. Accordingly, in the application, the wiper slides across the print head by a linear motion, but in Holbrook, the blade is rotated to sweep the print head by a rotatory motion. In other words, this application and Holbrook use substantially different ways (approaches) to perform the function of wiping.

Thus, Holbrook does not anticipate claim 1. The withdrawal of the rejection and the allowance of claim 1 are therefore earnestly solicited.

If independent claim 1 is allowable over the prior art of record, then its dependent claims 2-6 are allowable as a matter of law, at least because of the reason that these dependent claims contain all features/elements/steps of its respective independent claim 1.

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(2). Independent claim 7 is allowable for at least the reason that Holbrook does not disclose, teach or suggest the feature that "the wiper is set in motion and slides across the print head to clear away dried ink from the print head" as described in claim 7. The reason why the highlighted feature is not disclosed, taught or suggested by Holbrook has been disclosed in section (1) of the discussion of claim 1.

Thus, Holbrook does not anticipate claim 7. The withdrawal of the rejection and the allowance of claim 7 are therefore earnestly solicited.

If independent claim 7 is allowable over the prior art of record, then its dependent claims 8-10 are allowable as a matter of law, at least because of the reason that these dependent claims contain all features/elements/steps of its respective independent claim 7.

(3). Independent claim 11 is allowable for at least the reason that Holbrook does not disclose, teach or suggest the feature that "sliding the wiper across the print head to scrap off dried ink from the print head by the motion of wiper driven by the linear motion of the moving mechanism" as described in claim 11. The reason why the highlighted feature is not disclosed, taught or suggested by Holbrook has been disclosed in section (1) of the discussion of claim 1.

Thus, Holbrook does not anticipate claim 11. The withdrawal of the rejection and the allowance of claim 11 are therefore earnestly solicited.

If independent claim 11 is allowable over the prior art of record, then its dependent

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claim 12 is allowable as a matter of law, at least because of the reason that these dependent claims contain all features/elements/steps of its respective independent claim 11.

(4). Independent claim 13, as amended, states:

Claim 13. A method of sealing a print head of a print module in a printing system, wherein the printing system comprises a direction-changing mechanism, a moving mechanism and a cap with the direction-changing mechanism and the moving mechanism coupled together and the cap set up on the moving mechanism, the method comprising the steps of:

driving the print module to impart a rotary action to the direction-changing mechanism;
generating a linear motion to the moving mechanism by the rotary action of the direction-changing mechanism; and

lifting the cap toward the print head to seal the print head by the motion of the cap driven by the linear motion of the moving mechanism.

(Emphasis Added)

Independent claim 13 is allowable for at least the reason that Holbrook does not disclose, teach or suggest the feature that "lifting the cap toward the print head to seal the print head by the motion of the cap driven by the linear motion of the moving mechanism" as described in claim 13.

Referring to paragraphs [0023] of the application, it is disclosed that:

"Note that the caps 262a, 262b move along the direction of movement of the capping base 252 (the Z-axis). Therefore, the angle between the direction of movement of the cap 262a (or the cap 262b) and the direction of movement of the print module (the X-axis) is greater than or equal to 70° "

Therefore, the cap is lifted toward the print head to seal the print head by the linear motion of the moving mechanism.

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However, referring FIGS. 2-5 of Holbrook, it is clearly that the cap 47 is rotated to cover the orifice plate 11. Accordingly, in the application, the cap is lifted to cover the print head by a linear motion, but in Holbrook, the cap is rotated to cover the print head by a rotatory motion of the first portion 41 (that is coupled to arm 37) about spindle 39 (column 5, lines 42-47 of Holbrook). In other words, this application and Holbrook use substantially different ways (approaches) to perform the function of capping.

Thus, Holbrook does not anticipate claim 13. The withdrawal of the rejection and the allowance of claim 13 are therefore earnestly solicited.

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CONCLUSION

For at least the foregoing reasons, it is believed that all pending claims 1, 4, 7 and 10-13 and new claims 14-16 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

Date :

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